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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,068	04/26/2001	Richard D. Hoffman	AUS920010138US1	8481
32329	7590	12/21/2009	EXAMINER	
IBM CORPORATION INTELLECTUAL PROPERTY LAW 11501 BURNET ROAD AUSTIN, TX 78758				CAMPBELL, JOSHUA D
ART UNIT		PAPER NUMBER		
2178				
			NOTIFICATION DATE	DELIVERY MODE
			12/21/2009	ELECTRONIC

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* RICHARD D. HOFFMAN, MICHAEL A. PERKS,  
and SEAN MICHAEL SUNDBERG

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Appeal 2008-003082  
Application 09/843,068  
Technology Center 2100

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Decided: December 18, 2009

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Before LEE E. BARRETT, JOHN A. JEFFERY, and  
ST. JOHN COURTENAY III, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-18. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellants' invention pertains to generating metadata objects by (1) displaying a spreadsheet including metadata information therein, (2)

Appeal 2008-003082  
Application 09/843,068

converting the spreadsheet to a comma separated value file; and (3) parsing that file to generate metadata objects from the metadata information.<sup>1</sup> Claim 1 is illustrative with the key disputed limitations emphasized:

1. A method for generating *metadata objects*, said method comprising:

displaying a spreadsheet including *metadata information* therein; and  
providing a command to trigger a conversion of the spreadsheet into a  
comma separated value file.

The Examiner relies on the following as evidence of unpatentability:

Egilsson                    US 6,286,017 B1                    Sept. 4, 2001  
                               (filed Aug. 1, 1996)

Thomas Chester & Richard H. Alden, *Mastering Excel 97*, 4th ed., 1997 (“Chester”).

## THE REJECTIONS<sup>2</sup>

1. The Examiner rejected claims 1-18 under 35 U.S.C. § 112, ¶ 1 as failing to comply with the enablement requirement. Ans. 3-4.<sup>3</sup>
  2. The Examiner rejected claims 1-18 under 35 U.S.C. § 103(a) as unpatentable over Egilsson and Chester. Ans. 4-7.

<sup>1</sup> See generally Abstract; Spec. 2; Figs. 2-4.

<sup>2</sup> The Examiner withdrew a rejection under 35 U.S.C. § 101. Ans. 3.

<sup>3</sup> Throughout this opinion, we refer to (1) the Appeal Brief filed March 15, 2007; (2) the Examiner's Answer mailed July 2, 2007; and (3) the Reply Brief filed August 21, 2007.

#### THE ENABLEMENT REJECTION

Regarding representative claim 1,<sup>4</sup> the Examiner contends that since there is “no definable difference” between “metadata *information*” and “metadata *objects*” as claimed when the terms are interpreted in light of the Specification, the disclosure is not enabling. Ans. 3, 4, 8-10. In reaching this conclusion, the Examiner notes Appellants define “metadata objects” as “data for describing data objects” which the Examiner contends merely refers to unit data, or simply data. Based on these definitions, the Examiner concludes that it is unclear how “metadata objects” are meaningfully distinguished from “metadata information” so as to enable skilled artisans to make or use the invention. Ans. 3, 4, 8-10.

Appellants argue that skilled artisans are familiar with the concepts of metadata, and possess sufficient skill to make or use the claimed invention without undue experimentation. App. Br. 11. Appellants also refer to two passages in the Specification that are said to clarify the distinction between “metadata objects” and “metadata information.” *Id.* In this regard, Appellants note that the Specification refers to metadata objects in the context of files containing data.

The issue before us, then, is as follows:

#### ISSUE

Have Appellants shown that the Examiner erred in concluding that claim 1 fails to comply with the enablement requirement under § 112 by

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<sup>4</sup> For both rejections, Appellants argue claims 1-18 together as a group. See App. Br. 10-14. Accordingly, we select claim 1 as representative for both rejections. See 37 C.F.R. § 41.37(c)(1)(vii).

finding that skilled artisans could not reasonably ascertain the difference between “metadata objects” and “metadata information” as claimed?

This issue turns on whether skilled artisans can make or use the claimed invention from the present disclosure coupled with information known in the art without undue experimentation.

#### FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence:

##### *Appellants’ Disclosure*

1. In the Specification’s “Field of the Invention” section, Appellants note the following:

The present invention generally relates to the generation of metadata objects (i.e., data for describing data objects) . . . .  
In the context of the present invention, metadata objects may refer to instances of classes persisted to a file, relational or object-oriented database or simply rows in tables in a relational database.

Spec. 1:6-14.

2. The Specification’s “Description of the Related Art” section describes two known methods for developing and storing metadata objects on file(s) or in database(s). Spec. 1:15-28.

3. The Specification notes that a user inputs metadata information (MDI) in corresponding cells C11-C60 of metadata information grid 64 of a displayed worksheet 60. Spec. 6:10–7:8; Fig. 4. This metadata information grid containing metadata information in the displayed worksheet is shown in Appellants’ Figure 4 reproduced below:

The diagram illustrates Worksheet 60. At the top left, the identifier '60' is shown with a curved arrow pointing to the first cell of the header. The header consists of two rows: 'ITEM 61a' in the first cell and 'MENU BAR 61' in the second cell of the first row; 'ICON 62a' in the first cell and 'TOOLBAR 62' in the second cell of the second row. Below the header is a data grid with 10 rows labeled R1 through R10 and 6 columns labeled COL A through COL F. The data is as follows:

	COL A	COL B	COL C	COL D	COL E	COL F
R1	C1	C11	C12	C13	C14	C15
R2	C2	C16	C17	C18	C19	C20
R3	C3	C21	C22	C23	C24	C25
R4	C4	C26	C27	C28	C29	C30
R5	C5	C31	C32	C33	C34	C35
R6	C6	C36	C37	C38	C39	C40
R7	C7	C41	C42	C43	C44	C45
R8	C8	C46	C47	C48	C49	C50
R9	C9	C51	C52	C53	C54	C55
R10	C10	C56	C57	C58	C59	C60

Below the grid, two labels are present: '63' with a curved arrow pointing to the boundary between the last two columns, and '64' with a curved arrow pointing to the boundary between the first two columns.

Appellants' Figure 4 Showing Worksheet 60 With Metadata Information Grid 64 Containing Metadata Information in Cells

4. According to the Specification, metadata importer 43 generates metadata objects (MDO) from metadata information within comma separated value file (CSVF). In one embodiment, importer 43 parses the CSVF to generate the metadata objects. Alternatively, importer 43 identifies associated metadata directives (MDD) and parses the CSVF in accordance with those directives to generate the metadata objects. Abstract; Spec. 9:1-14.

## PRINCIPLES OF LAW

“The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” *United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988).

A disclosure may be enabling despite the need for experimentation. The test, however, is whether such experimentation is *undue*. *In re Angstadt*, 537 F.2d 498, 504 (CCPA 1976) (emphasis added).

“[T]he specification is the single best guide to the meaning of a disputed term, and . . . acts as a dictionary when it expressly defines terms in the claims or when it defines terms by implication.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc) (internal quotation marks and citations omitted).

## ANALYSIS

Based on the record before us, we are persuaded of error in the Examiner’s enablement rejection of claim 1. The Examiner’s rejection is predicated on the perceived lack of distinction between “metadata objects” and “metadata information.” Ans. 3, 4, 8-10. Since resolving this issue turns on the meaning of these terms, we therefore turn to Appellants’ Specification, for it is the single best guide to ascertain the meaning of disputed terms. *Phillips*, 415 F.3d at 1321.

In the Specification, Appellants define “metadata objects” as “data for describing data objects,” and note that “metadata objects may refer to instances of classes persisted to a file, relational or object-oriented database or simply rows in tables in a relational database.” FF 1. Although this

description arguably includes information or data, a metadata object nonetheless refers to a *collection* of data (e.g., instances of classes persisted to a file, database, or rows in a database table). *See FF 1 and 2.*

This construction also comports with Appellants' usage of the term and its distinction from "metadata information" in connection with the present invention. As shown in Figure 4 of the present application, the user enters individual items of metadata *information* in respective cells C11-C60 of worksheet 60. FF 3. After creating a comma separated value file with this information, it is parsed to generate the metadata *objects* (FF 4)—objects that are associated with a *collection* of such information (i.e., the comma separated value file, rows of worksheet cells, etc.). *See FF 1* (noting that metadata objects may refer to instances of classes persisted to a file, relational or object-oriented database or simply rows in tables in a relational database). In short, the metadata objects pertaining to this *collection* of information are distinct from the metadata information contained in the individual cells of that collection. *See FF 3 and 4.*

Based on the record before us, we find that skilled artisans could reasonably ascertain the difference between "metadata objects" and "metadata information" as claimed.<sup>5</sup> As such, skilled artisans can therefore

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<sup>5</sup> "[T]he use of [two similar but different] terms in close proximity in the same claim gives rise to an inference that a different meaning should be assigned to each . . . That inference, however, is not conclusive; it is not unknown for different words to be used to express similar concepts, even though it may be poor drafting practice." *Bancorp Services, L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004) (citing *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1579 (Fed. Cir. 1996) (stating that "[i]f the terms 'pusher assembly' and 'pusher bar' described a single element, one would expect the claim to consistently refer

make or use the claimed invention from the present disclosure coupled with information known in the art without undue experimentation.

Appellants have therefore persuaded us of error in the Examiner's enablement rejection of claims 1-18.

#### THE OBVIOUSNESS REJECTION

Regarding representative claim 1, the Examiner finds that Egilsson displays a spreadsheet including metadata information, but does not provide a command to trigger converting the spreadsheet into a comma separated value (CSV) file as claimed. The Examiner, however, relies on Chester for this feature in concluding that the claim would have been obvious. Ans 4-5. This modification, the Examiner contends, would facilitate importing and exporting files in a standard format. Ans. 5, 10, and 11.

Appellants argue that there is no suggestion or motivation to combine the cited references as proposed. According to Appellants, Egilsson does not direct skilled artisans to seek out Chester's teachings to assist in creating general software using a spreadsheet, let alone teach the desirability of the claimed invention. App. Br. 12-14; Reply Br. 5. Moreover, Appellants emphasize that Egilsson does not denounce its graphical environment for managing and developing applications as anything less than an "ideal solution" to the problems. App. Br. 13; Reply Br. 4. Appellants add that Chester does not pronounce its converting spreadsheet files into CSV files as the "ultimate method" of displaying metadata. *Id.*

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to this element as either a 'pusher bar' or a 'pusher assembly,' but not both, especially not within the same clause. Therefore, in our view, the plain meaning of the claim will not bear a reading that 'pusher assembly' and 'pusher bar' are synonyms.").

The issue before us, then, is as follows:

## ISSUE

Under § 103, have Appellants shown that the Examiner erred in rejecting claim 1 by combining the teachings of Egilsson and Chester to arrive at the claimed invention?

This issue turns on whether the Examiner's reason to combine the teachings of these references is supported by articulated reasoning with some rational underpinning to justify the Examiner's obviousness conclusion.

## FINDINGS OF FACT

The record supports the following additional findings of fact (FF) by a preponderance of the evidence:

### *Egilsson*

5. Egilsson discloses a graphical application developing and managing environment that can represent and edit program modules using multiple display formats. To this end, source code written in a functional language can be embedded in a spreadsheet-like format. This functionality enables users to create general software applications without having to abandon spreadsheet methodologies. Egilsson, Abstract; col. 2, ll. 28-46.

6. Figure 5 shows a program module 302 represented in a spreadsheet-like format 504 (i.e., a cell format). The cell format contains areas for input variables 501, output variables 502, and manipulation variables 503. The cell format also defines a runtime environment for

module 302 by allowing the user to modify cell definitions and view results of program operations. Egilsson, col. 10, ll. 50-64; Fig. 5.

7. Figure 10 shows a flow chart 1001 for embedding a program source code in text format (or equivalent) into a cell format. To this end, each statement in a functional language is associated with a variable for association with a cell in a cell format. Egilsson, col. 14, ll. 5-42; Fig. 10.

8. Figure 11 shows a flow chart 1101 for translating source code on cell format into text format (or equivalent). To this end, statements associated with cells are (1) read; (2) written into text format; and (3) assigned their corresponding variables. Egilsson, col. 14, ll. 43-65; Fig. 11.

9. Egilsson notes that users can share access to modules to enable sharing components between users of the system (e.g., network) with different programming skills, including users with only knowledge of spreadsheet systems. Egilsson, col. 12, ll. 7-31.

*Chester*

10. Chester notes that “[d]elimiters are special characters that separate fields, allowing Excel to place each field into a new column on the worksheet. When a text file is delimited, importing it into Excel is easy.” Chester, at 737 (italics omitted).

11. According to Chester, a common delimiter is a comma used in “comma separated values” (CSV) files. When a CSV file is opened in Excel, the data is automatically placed into rows and columns. Chester, at 737-38; Figs. 29.11 and 29.12.

12. Active sheets in Excel can be saved in CSV format. Chester, at 914.

13. “Text and CSV (Macintosh, OS/2, or MS-DOS) are text formats for transferring a file to other operating environments.” Chester, at 915.

#### PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (noting that 35 U.S.C. § 103 leads to three basic factual inquiries: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art). Furthermore, the Examiner’s obviousness rejection must be based on

“some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

*KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

If the Examiner’s burden is met, the burden then shifts to the Appellants to overcome the *prima facie* case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

The level of ordinary skill in the art may be evidenced by the prior art references. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (“Although the Board did not make a specific finding on skill level, it did conclude that the level of ordinary skill in the art . . . was best determined by appeal to the references of record . . . . We do not believe that the Board clearly erred in adopting this approach.”); *see also In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978) (“the PTO usually must evaluate both the scope and content of the prior art and the level of ordinary skill solely on the cold words of the literature”).

“The mere age of the references is not persuasive of the unobviousness of the combination of their teachings, absent evidence that, notwithstanding knowledge of the references, the art tried and failed to solve the problem.” *In re Wright*, 569 F.2d 1124, 1127 (CCPA 1977).

According to the Federal Circuit:

“[M]otivation to combine is . . . inextricably linked to the level of ordinary skill. If, as is usually the case, no prior art reference contains an express suggestion to combine references, then the level of ordinary skill will often predetermine whether an implicit suggestion exists. Persons of varying degrees of skill not only possess varying bases of knowledge, they also possess varying levels of imagination and ingenuity in the relevant field, particularly with respect to problem-solving abilities.”

*DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1370 (Fed. Cir. 2006).

## ANALYSIS

This appeal hinges on combinability: namely, whether Appellants have shown that the Examiner erred in combining Egilsson and Chester to arrive at the claimed invention. For the reasons that follow, we are not persuaded of such an error.

It is undisputed that Egilsson uses a spreadsheet format to enable users to create and edit general software applications. FF 5 and 6. Nor is it disputed that Chester teaches using CSV files to import and export data to and from spreadsheets. FF 10-13. Rather, the dispute before us turns on whether skilled artisans would have combined these teachings to arrive at the claimed invention as the Examiner proposes.

Based on the record before us, we see no reason why skilled artisans would not have provided a CSV file conversion capability such as that described by Chester in conjunction with Egilsson's spreadsheet to facilitate importing and exporting data for the reasons noted by the Examiner (Ans. 10-11). As the Examiner correctly indicates (Ans. 11), such a capability would enable transferring spreadsheet data to a platform-independent text file for use in other operating environments—a feature expressly touted in Chester. FF 13. We see no reason why such a capability would not have enhanced Egilsson's spreadsheet-based system, particularly since users can share data associated with program modules. *See* FF 9.

Moreover, opening these CSV text files in spreadsheet programs can automatically place the data in tabular format. FF 11. By its very nature, this feature would save time by automatically presenting the data in a

spreadsheet format, thus precluding the need to reformat the imported data. *See id.* Again, we see no reason why such a value-added feature could not have been provided in Egilsson’s spreadsheet-based system.

That Egilsson includes functions for translating source code in cell format into text format (FF 8) and vice-versa (FF 7) only bolsters our conclusion that providing a CSV-based data importing and exporting function for spreadsheets would have been an obvious enhancement to Egilsson’s spreadsheet-based system. Such a capability is tantamount to the predictable use of prior art elements according to their established functions—an obvious improvement. *See KSR*, 550 U.S. at 417; *see also id.* (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

Appellants argue that since Egilsson’s filing date is nearly five years before the present application’s filing date, and Chester’s publication date is four years before the application’s filing date, then such a gap would allegedly preclude a finding of obviousness given (1) the rapid advancements in the GUI field, and (2) “the exceptionally high educational level” of active workers in this field. Reply Br. 3. Appellants add that the Examiners’ failure to identify the level of ordinary skill in the art likewise renders the Examiner’s obviousness conclusion unsupportable. Reply Br. 4.

These arguments were raised for the first time in the Reply Brief, and we see no reason why they could not have been presented earlier in the Appeal Brief, despite the intervening *KSR* decision. As such, these new arguments are untimely.<sup>6</sup>

Nevertheless, these arguments are not persuasive even if they were timely raised. “The mere age of the references is not persuasive of the unobviousness of the combination of their teachings, absent evidence that, notwithstanding knowledge of the references, the art tried and failed to solve the problem.” *Wright*, 569 F.2d at 1127. Therefore, even assuming that a four- or five-year gap between prior art publication dates and the application filing date is considered extensive for a rapidly-changing technology, that fact alone is not dispositive of whether skilled artisans would have combined the teachings of these references to arrive at the claimed invention. *See id.*

Moreover, Appellants’ assertion that skilled artisans would have surely combined Egilsson and Chester before Appellants if it were obvious to do so (Reply Br. 3) is merely speculative and unpersuasive. Mere lawyer’s arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *see also In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984).

Lastly, we find unavailing Appellants’ contention (Reply Br. 4) that the Examiner’s obviousness rejection is erroneous since the Examiner failed to identify the level of skill in the art. To be sure, the level of ordinary skill

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<sup>6</sup> *See Optivus Tech., Inc. v. Ion Beam Appl’ns S.A.*, 469 F.3d 978, 989 (Fed. Cir. 2006) (“[A]n issue not raised by an appellant in its opening brief . . . is waived.”) (citations and quotation marks omitted).

in the art is a fundamental factual determination that must be made to establish a *prima facie* case of obviousness. *See Deere*, 383 U.S. at 17 (noting that 35 U.S.C. § 103 leads to three basic factual inquiries: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) *the level of ordinary skill in the art*) (emphasis added).

But this skill level may be evidenced by the prior art references themselves. *GPAC*, 57 F.3d at 1579; *see also In re Oelrich*, 579 F.2d at 91. Here, Egilsson's graphical application developing and managing environment that enables embedding source code written in a functional language in a spreadsheet-like format indicates a relatively high level of skill, commensurate with at least that of computer engineers and programmers. *See FF 5-9*. And while Chester may reflect a somewhat lower level of skill since the reference is directed to a user of the Excel software and not necessarily a programmer (*see FF 10-13*), the references nonetheless collectively reflect a high level of skill involving computer engineering and programming expertise.

We therefore disagree with Appellants' assertion that the Examiner's rejection is erroneous by failing to show the level of skill in the art. Rather, this high level of skill evidenced by the references themselves tends to bolster the Examiner's position that skilled artisans would have combined the references since the motivation to do so is "inextricably linked to the level of ordinary skill." *See DyStar*, 464 F.3d at 1370.

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's obviousness rejection of claim 1, and claims 2-18 which fall with claim 1.

Appeal 2008-003082  
Application 09/843,068

## CONCLUSIONS

Appellants have shown that the Examiner erred in rejecting claims 1-18 under § 112. Appellants, however, have not shown that the Examiner erred in rejecting claims 1-18 under § 103.

## ORDER

Because we have sustained the rejection of each claim on appeal with respect to at least one ground of rejection, the Examiner's decision rejecting claims 1-18 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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